

REMARKS

Claims 1-13 were pending in the application. Claim 1 has been canceled without prejudice or disclaimer. Claims 2, 5-7, 11, and 13 have been amended. Claims 14-21 have been added. No new matter has been introduced. Thus, claims 2-21 are submitted for reconsideration at this time.

Prior Art Rejections

Rejections Under §102

Claims 2-5, 7, and 9-13 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 6,114,784 ("Nakano" hereafter). Claim 2 has been rewritten to be in independent form without changing the scope of claim 2. Claim 13 has been amended to incorporate similar subject matter as that recited in original claim 2. Claims 5-7, and 11 have been amended to depend from newly independent claim 2, and to more closely conform with standard U.S. practice. No new matter has been introduced. Applicant respectfully traverses the pending anticipation rejection for at least the following reasons.

Nakano fails to disclose or suggest a plurality of positioning projection members which are located between the first and second stator support members, wherein each of the positioning projection members remains between adjacent stator cores to allow the stator cores to be positioned with a given equal distance as recited in independent claims 2 and 13. Rather, Nakano discloses bolts 43 (i.e., not positioning projection members), where a sufficient cross-sectional area of a passage for coolant is ensured at the passages formed between the bolts 43 and the bolt holes 81 (col. 5, lines 20-28). Specifically, as shown in the cross-section view of FIG. 7 and described in col. 5, lines 29-43, Nakano discloses a plurality of core steel plates 21 with bolt holes 81 defining cooling jackets 80 formed between adjacent core plates 21 (i.e., the bolts 43 passing through resin mold labeled 83 in the drawing). Similarly, as shown in FIG. 3 of the pending application, the present invention discloses a plurality of stator cores 5A with through-bores that define coolant flow passages 35 formed between adjacent core plates 5A (i.e., the fixing bolts 33 shown passing through the through-bores).

The present invention of claims 2 and 13 further includes, however, a plurality of positioning projection members (see element 31 of FIG. 2) remaining between adjacent stator cores (see element 5A, and page 5, lines 1-8 of the pending

application). With such a structure, the positioning projection members 31 function to allow the stator cores 5A to be correctly separated from one another with a given angular spacing to permit thermal energy to be rapidly transferred to the front and rear stator support members 19 and 21 (page 5, lines 4-8). Nakano fails to disclose or suggest this feature. Thus, Nakano cannot anticipate the claimed invention.

Withdrawal of the rejection under §102 is earnestly solicited.

Rejections Under §103

Claims 6 and 8 stand rejected under 35 U.S.C. §103 as being unpatentable over Nakano. Claims 6 and 8 are dependent upon claim 2, and are considered allowable for at least the aforementioned reasons with respect to claim 2, in addition to any further patentable features recited therein.

Regarding claim 8 specifically, the Office Action correctly acknowledges that Nakano fails to disclose positioning projection members integrally formed with one of the stator support members. The Office Action alleges, however, that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the positioning projection members integrally formed with one of the stator support members, since it has been held that making an old device portable or movable without producing any new and unexpected results involves only routine skill in the art. As noted above, Nakano fails to disclose or suggest a positioning projection member at all. Thus, it cannot be obvious to one of ordinary skill in the art to make integral a component which was not disclosed by the reference in the first place.

Withdrawal of the rejection under §103 is earnestly solicited.

New Claims 14-21


New claims 14-21 have been added to more fully recite features of the present invention. Support for new claims 14-21 can be found, for example, in original claim 2. Applicant submits that new claims 14-21 are allowable for similar reasons as those asserted above with respect to claim 2, in addition to any further patentable features recited therein. Allowance of claims 14-21 is earnestly solicited.

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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Date


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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge deposit account No. 19-0741 for any such fees; and applicant hereby petitions for any needed extension of time.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Canceled)

2. (Amended) A stator support structure for an electric rotary machine [according to claim 1], [further] comprising:

a divided-coil type stator including a plurality of divided stator cores and a plurality of stator coils wound around the stator cores, respectively;

a first rotor disposed inside the divided-coil type stator;

a second rotor disposed outside the divided-coil type stator;

a first stator support member supporting one side of the divided-coil type stator;

a second stator support member supporting the other side of the divided-coil type stator; and

a plurality of positioning projection members which are located between the first and second stator support members,

wherein the divided-coil type stator, the first and second rotors are rotatably disposed in a concentric relationship to form a three-layer structure, and both distal ends of the respective stator cores are rigidly supported with the first and second stator support members with a given equal distance, and

wherein each of [which] the positioning projection members remains between [the] adjacent stator cores to allow the stator cores to be positioned with the given equal distance.

5. (Amended) A stator support structure for an electric rotary machine according to claim [1] 2, wherein the stator cores are integrally supported with and coupled to the first and second stator support members by [means of] a plurality of fixing pins.

6. (Amended) A stator support structure for an electric rotary machine according to claim [1] 2, wherein the first and second stator support members are made of a material having nonmagnetic and high heat conducting properties.

7. (Amended) A stator support structure for an electric rotary machine according to claim [1] 2, wherein each of the first and second stator support members has a flow passage for passing coolant medium.

11. (Amended) A stator support structure for an electric rotary machine according to claim [1] 2, wherein each of the stator cores has a flow passage[, receiving each of] formed around fixing bolts for fixing the stator cores, [which is] each of the stator cores being treated with a sealing material to form [a] the flow passages for passing a coolant medium.

13. (Amended) A stator support structure for an electric rotary machine, comprising:

a divided-coil type stator including a plurality of divided stator cores and a plurality of stator coils wound around the stator cores, respectively;

a first rotor disposed inside the divided-coil type stator;

a second rotor disposed outside the divided-coil type stator;

first stator support means for supporting one side of the divided-coil type stator;
[and]

second stator support means for supporting the other side of the divided-coil type stator; and

a plurality of positioning projection means which are located between the first and second stator support means,

wherein the divided-coil type stator, the first and second rotors are rotatably disposed in a concentric relationship to form a three-layer structure, and both distal ends of the respective stator cores are rigidly supported with the first and second stator support means with a given equal distance, and

wherein each of the positioning projection means remains between adjacent stator cores to allow the stator cores to be positioned with the given equal distance.